

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the present application.

LISTING OF THE CLAIMS:

1. (Currently Amended) A pump device, comprising:
at least one of: i) a piston and ii) sealing elements to seal the pump piston, the at least one of the pump piston and sealing elements having a coating containing at least one of i) halogen-, ii) silicon-, iii) carbon-containing, and iv) metal-organic monomers;
wherein the coating includes:
an inner adhesive layer including one of a) chromium, and b) silicon;
at least one intermediate layer including one of a) chromium, b) tungsten, c) silicon, and d) carbon; and
one of a) an outer, metal-free functional layer of diamond-like carbon (DLC), and b) an outer, metal-containing functional layer including tungsten carbide;
wherein one of the piston and the sealing elements is made of metal, and another of the piston and the sealing elements is made of an elastomeric material.
2. (Currently Amended) The device as recited in claim 1, wherein the outer functional layer of the coating is made up of diamond-like carbon.
- 3-20. (Canceled).
21. (New) The device as recited in claim 1, wherein the piston is made of metal.
22. (New) The device as recited in claim 1, wherein the sealing elements are made of the elastomeric material.
23. (New) The device as recited in claim 1, wherein the elastomeric material includes one of EPDM, viton, turcun, and rubber variants of EPDM.
24. (New) The device as recited in claim 1, wherein the sealing elements have a high abrasion resistance and hardness, and a low coefficient of friction.

25. (New) The device as recited in claim 1, wherein the piston is made of metal, and wherein the sealing elements are made of the elastomeric material.
26. (New) The device as recited in claim 25, wherein the coating is on the piston.
27. (New) The device as recited in claim 25, wherein the coating is on the sealing elements.
28. (New) The device as recited in claim 25, wherein the coating is on the piston and on the sealing elements.
29. (New) The device as recited in claim 1, wherein the coating is on the piston.
30. (New) The device as recited in claim 1, wherein the coating is on the sealing elements.
31. (New) The device as recited in claim 1, wherein the coating is on the piston and on the sealing elements.
32. (New) The device as recited in claim 1, wherein the elastomeric material includes EPDM, which includes terpolymers of ethylene, propylene and a diene having an unsaturated part of the diene in a side chain.
33. (New) The device as recited in claim 1, wherein the sealing elements include sealing rings.
34. (New) The device as recited in claim 1, wherein the sealing elements include a quad-ring.
35. (New) The device as recited in claim 1, wherein the sealing elements include a quad-ring, which includes concavely shaped surfaces and four annularly integrated sealing lips.
36. (New) The device as recited in claim 1, wherein the sealing elements include an x-ring.

37. (New) The device as recited in claim 1, wherein the piston includes a three layer configuration, including an adhesive layer, at least one intermediate layer, and a third outermost layer which is one of a metal-free functional layer and metal-containing functional layer.

38. (New) The device as recited in claim 37, wherein the adhesive layer is made of chromium or silicon, wherein the at least one intermediate layer includes at least one of chromium, wolfram, silicon and carbon, and the third layer is the metal-free functional layer having diamond-like carbon (DLC).

39. (New) The device as recited in claim 37, wherein the adhesive layer is made of chromium or silicon, wherein the at least one intermediate layer includes at least one of chromium, wolfram, silicon and carbon, and the third layer is the metal-containing functional layer having iC wolfram-carbide.

40. (New) The device as recited in claim 37, wherein a layer thickness of the three layers together is approximately 0.5 micrometers to 4 micrometers at a micro-hardness of approximately 4 to 40 GPa.

41. (New) The device as recited in claim 37, wherein a layer thickness of the three layers together is approximately 0.5 micrometers to 4 micrometers at a micro-hardness of approximately 4 to 40 GPa, and a coefficient of friction of the functional layer amounts to approximately 0.05 to 0.3 (dry).